

Objection to the Specification

In the outstanding Final Office Action, the Examiner has objected to the Amendment filed July 16, 2002 under 35 U.S.C. § 132 as introducing new matter into the disclosure. The Examiner contends that the removal of the word "fabric" before the phrase "backing layer" is addition of new matter to the disclosure. The Examiner contends that there is no support in the specification for the backing layer being anything but a fabric layer. Applicants respectfully traverse this objection on the following grounds.

The word "fabric" in the original term "fabric-backing layer" is a descriptive term that describes the structure that the backing layer is backing. In other words, the backing layer backs the fabric layer and thus the backing layer can be descriptively characterized as a "fabric backing layer". While, it may be an unfortunate and confusing choice of words, Applicants have support in the specification that the backing layer is formed of a material that is clearly not a fabric material. In the specification at page 13, lines 7-8, it is stated that fabric backing layer 64 is formed of a shape-retaining material, for example, a rubber or plastic material. At lines 13-14 of page 13, it is stated that the fabric backing layer is formed of a thermoplastic. Thus, Applicants respectfully contend that the backing layer is described in the specification not as a "fabric" layer but rather it is a shape-retaining material, such as a thermoplastic, that backs the fabric layer. Applicants respectfully request reconsideration and withdrawal of this objection based on the preceding comments.

Section 103 Rejections

Claims 2-3, 6-12, 15-17, 33-36 and 39-42 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Walters in view of Clark and Barma. Claims 4 and 5 stand rejected

under 35 U.S.C. 103(a) as being unpatentable over the above references in further view of Mitchell.

The pending claims distinguish over the cited patents in reciting an assembly of a thermoplastic backing layer and a fabric material which is integrally molded with other material to define an outsole. This outsole structure is a unitary assembly which includes a fabric material as a ground-contacting surface whereas Walters and Mitchell both concern removable and discardable fabric strips on an outsole. In view of Clark, one learns of backed fabrics that can be attached to shoes instead of simple fabric strips, but such attachments are by sewing, nailing or cementing. The constructions resulting from combining Clark with Walters use separate components to effect attachment, and, in any event, are not permanent as in the claimed integrally molded assembly. In any event, the claimed assembly is contrary to Walters which teaches a "removable" attachment.

Barma concerns rubber-to-rubber bonds which can result in a permanent attachment, but one of skill in the art would not seek to modify Walters which has "removable" strips, or even Clark which has a rubber-backed strip with Barma to construct an integral assembly with a ground contacting fabric, in part because the claimed "thermoplastic backing layer" is not suitable for vulcanization --as taught by Barma-- and perhaps also because of the potential for damage to fabric layers.

The overshoe construction of Walters has replaceable cloth strips that are cemented directly to the inner sole *a* or into cavities *b2* and *b3* formed in a rubber outersole. The cloth strips are intended to be removed when worn out "by simply pulling or otherwise tearing them off from the shoes" (lines 88-91).

Walters does not disclose or suggest a construction in which an integral assembly of a fabric and a backing layer is disposed on a non-ground contacting portion of an outsole as recited in the claims now pending. The fabric strip in the Walters' shoe is not a part of an integral assembly with a "thermoplastic backing layer" nor is that portion of the outsole "integrally molded with" a base section of the non-ground contacting portion of the first section, which also has a ground-contacting portion.

Clark was cited for its teaching of a structure having a fabric layer backed by a more rigid structure (which, in the case of Clark, is rubber). Clark, however, does not describe an insert for an outsole. Rather, it describes an outsole sheet that is "sewn, nailed or cemented" in place. The Examiner's position is that it would have been obvious to one of skill in the art to substitute the fabric layer of Walters with the construction that is disclosed in Clark, namely a composite sheet material that has a woven textile pile fabric layer and rubber layers. Clark fails to disclose or even contemplate an outsole that is "integrally molded with a base section ... to define a fused bond" as claimed.

The Examiner refers to Barma for its teaching of a rubber on rubber melting in a vulcanization process. Barma discloses a rubber footwear product and a method of making the same. More specifically, Barma is concerned with using one or more vulcanization steps to assemble a shoe. For example, Barma discloses using a rubber upper portion and a rubber molded insole which are vulcanized together to form a rubber footwear product subassembly of unitary construction (see Column 3, lines 64-67). Barma is concerned with improvements in the vulcanization process which obviate the need to manufacture the complete footwear product in a single vulcanization step. The teaching of Barma is clearly limited to forming products using a

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vulcanization process and therefore the subassembly that is disclosed is formed of rubber members that are vulcanized to effectuate a unitary construction. Barna teaches away from the use of thermoplastics by stating that:

Thermoplastic and other natural or synthetic polymeric substances could not be used in such a manufacturing process [a vulcanization process], due to the fact that they are either thermally sensitive or otherwise degrade upon vulcanization." (Column 2, lines 12-17).

The construction of independent claim 3 calls for a layered outsole which, within the second section, comprises an outer ground contacting fabric layer integrally joined to a backing layer (thermoplastic material) which is in turn attached to the non-ground contacting portion of the first section. More specifically, the backing layer is bonded to a base section of the non-ground contacting portion of the first section by a fused bond at a boundary zone between the backing layer and the base section such that the fabric material is a ground contacting surface. The fused bond results from the backed fabric being "integrally molded with" the material of the first section (e.g., a rubber or plastic or thermoplastic materials as recited in claims 8 and 9) in which material is flowed around the backing layer of the second section and the backing layer fuse bonds to the flowed material.

Proposed Combination is Different than the Claimed Invention

Applicants respectfully follow the Examiner's reasoning in that the fabric cut-outs in Walter could in theory be substituted with the composite sheet material of Clark, with the rubber layer thereof being placed first into the recess formed in the rubber outsole of Walters and then attachment therebetween can be effectuated using the vulcanization process of Barma. However, there are several important reasons why this combination does not teach or suggest the claimed shoe since this combination fails to teach or recite one or more claimed elements. More specifically, the vulcanization process disclosed in Barma is only applicable when rubber components are being assembled/attached and at least one of the rubber components is at least partially uncured so that it can vulcanize with the other rubber component.

It is clear that the fused bond recited in claim 3 cannot be the result of a vulcanization process since the backing material --which is a thermoplastic-- forms a part of the fused bond and it well known that thermoplastic materials are not subjected to a vulcanization process where cross-linking additives are added to promote cross-linking between rubber molecules. Applicants have further amended the claims to recite that the backing layer is integrally molded with a base section (another material) to define a fused bond at a boundary zone. This is much different than merely cementing two discrete articles together and also it is much different than Barma's vulcanization process. Vulcanization is a distinct process that has specific requirements and it is not a molding process as recited in the present claims.

In other words, even assuming *arguendo* that one of skill in the art were motivated to substitute the rubber material in the Clark composite sheet with a thermoplastic

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material to form a sheet having the woven textile pile fabric and the claimed thermoplastic material, and further were to combine such a construction with the outersole of Walters, Applicants respectfully contend that the skilled artisan would not turn to Barma for guidance as to how to attach the thermoplastic layer of Clark's composite sheet with the rubber outersole of Walters since Barma is limited to vulcanization of two rubber components as opposed to fuse bonding a thermoplastic material to another material. Barma sheds no light on fuse bonding a backing layer that is formed of a thermoplastic material. Rather, the choice to be made by one of ordinary skill is precisely as taught by Walters and Clark: use glue, staples or stitching.

The Claimed Arrangement is an Advance in this Art

Applicants respectfully submit that there are number of advantages that are realized by using a thermoplastic backing layer instead of a rubber backing layer, as disclosed by Clark. First and as previously mentioned, vulcanization requires the addition of cross-linking agents (vulcanization agents) in order for the vulcanization process to proceed. In contrast, the fused bonding of the claimed thermoplastic backing layer does not require cross-linking agents. Second, the vulcanization process must be carefully controlled so that the components are not fully cured before the components are subjected to a vulcanization process for forming the unitary construction since vulcanization requires an at least partially uncured rubber component. Third, the time periods involved in the vulcanization process are typically substantially much longer than the time periods disclosed in the present specification. For example, Barma at column 8, lines 63-67, disclose that the vulcanization process proceeds for 1-1.5 hours so that the molecules of the uncured rubber components cross-link to form a unitary structure. By contrast,

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the fused bond can result from an injection molding operation by which the first section of the outsole is injected around the second section for a time period of a minute or two. Fourth, the extended heating time period that is required to effectuate vulcanization can adversely impact the fabric layer of the claimed shoe construction since some fabric layers can be damaged or destroyed if subjected to elevated temperatures for comparable time periods. Thus, for the foregoing reasons, Applicants respectfully contend that they have realized a number of advantages associated with using a thermoplastic backing layer as opposed to a rubber backing layer and have discovered a needed improvement in the art.

Applicants respectfully submit that for the foregoing reasons, a combination of the references in the manner set forth by the Examiner does not yield or even suggest the claimed shoe construction which requires a thermoplastic backing layer bonded by a bond that results from fusing of the thermoplastic material.

For at least the foregoing reasons, a combination of the references does not disclose or suggest the claimed construction and therefore, the rejection under 35 U.S.C. 103 of the independent claim 3 should be withdrawn.

Claims 2 and 4-12 should be allowed as depending from what should now be an allowed independent claim 3, as amended.

Claim 15 is an independent claim reciting a shoe outsole and should be allowed for the same above reasons as to why claim 3 should be allowed. Based on the foregoing reasons, the rejection of claim 15 should be withdrawn and this claim should be passed to issue.

Claims 16, 17 and 33-36 should be allowed as depending from what should now be an allowed independent claim 15.

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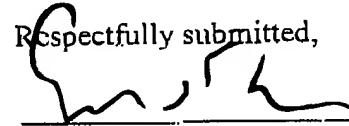
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Claim 39 is an independent claim and should be allowed for the reasons set forth above as to why claim 3 should be allowed.

Claims 40-42 should be allowed as depending from what should now be an allowed independent claim 39.

It is believed that this amendment is fully responsive to the outstanding Office Action. Should the Examiner believe that direct contact with Applicants' attorney would advance prosecution of this application, the Examiner is invited to telephone the undersigned at the number given below.

Respectfully submitted,


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MARKED-UP COPY OF AMENDED CLAIMS 3, 15 AND 39

3. (Twice Amended) A shoe comprising:

an upper;

a lower attached to the upper; and

an outsole attached to the lower, the outsole having a first section formed of a first material and including a ground contacting portion and a non-ground contacting portion and having a second section including an outer ground contacting layer formed of a fabric material, wherein the second section further includes a backing layer formed of a thermoplastic material, the fabric material of the outer ground contacting layer being connected to the backing layer to define an integral assembly and wherein the backing layer is integrally molded with [bonded to] a base section of the non-ground contacting portion of the first section [by] to define a fused bond at a boundary zone between the backing layer and the base section such that the fabric material is a ground contacting surface.

15. (Twice Amended) A shoe outsole comprising:

a first section including a ground contacting portion and a non-ground contacting portion; and

a second section including an outer ground contacting layer formed of a fabric material, wherein the second section includes a backing layer formed of a thermoplastic material and being connected to the fabric material to define an integral insert, wherein the non-ground

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contacting portion of the first section includes at least one recessed section for receiving the insert, the backing layer being integrally molded with [bonded to] a base of the recessed section [by] to define a fused bond at a boundary zone between the backing layer and the base so that the fabric material is a ground contacting surface.

39. (Once Amended) A shoe comprising:

an upper;

a lower attached to the upper; and

an outsole formed of a first material and having a first face attached to the lower

and a second face defining a ground contacting surface, the second face having at least one recessed section for receiving at least one insert, each insert being formed of a thermoplastic backing layer and an outer ground contacting layer that is formed of a fabric material which is integrally attached to the backing layer, wherin the backing layer and the first material are integrally, moldably attached in a softened state to form a unitary outsole construction with the fabric material defining a ground contacting surface.